

FILE 'HOME' ENTERED AT 17:34:27 ON 21 FEB 2003

=> file agricola biosis caplus caba  
=> s lgc1  
L1 13 LGC1  
=> duplicate remove l1  
L2 10 DUPLICATE REMOVE L1 (3 DUPLICATES REMOVED)  
=> d ti 1-10  
L2 ANSWER 1 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Silencer element in the promoter of a generative cell-specific gene  
LGC1.  
L2 ANSWER 2 OF 10 CAPPLUS COPYRIGHT 2003 ACS  
TI Male germ line cell-specific genes and proteins from lily plants and their  
use in recombinant vectors to induce male sterility or transposon tagging  
L2 ANSWER 3 OF 10 AGRICOLA DUPLICATE 1  
TI Male gametic cell-specific gene expression in flowering plants.  
L2 ANSWER 4 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Pedigree of common wheat in East Asia deduced from distribution of the  
gametocidal inhibitor gene (Igc1) and beta-amylase isozymes.  
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TI A study on carbonate leaching of vanadium-bearing slag treated by  
oxidizing roasting with calcium compound  
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TI Properties and protein quality in growing rats of a low-glutelin content  
rice mutant.  
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TI Effect of electrolytes on the solubility of micelle-forming surfactant  
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TI A rice (*Oryza sativa* L.) mutant having a low content of glutelin and a  
high content of prolamine.  
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TI Chlorophyll precursors and newly formed chlorophyll a and b molecule  
distribution in pigment-protein complexes of chloroplasts  
L2 ANSWER 10 OF 10 CAPPLUS COPYRIGHT 2003 ACS  
TI Action of Nitric Acid on Starch  
  
=> d bib abs 1 3  
L2 ANSWER 1 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
AN 2003:65627 BIOSIS  
DN PREV200300065627  
TI Silencer element in the promoter of a generative cell-specific gene  
LGC1.  
AU Singh, Manjit (1); Bhalla, Prem (1); Singh, Mohan B. (1)  
CS (1) Plant Molecular Biology and Biotechnology Laboratory, Institute of  
Land and Food Resources, University of Melbourne, Parkville, VIC,  
Australia: m.singh@grad.unimelb.edu.au Australia  
SO Plant Biology (Rockville), (2000) Vol. 2000, pp. 197. print.  
Meeting Info.: Annual Meeting of the American Society of Plant  
Physiologists San Diego, California, USA July 15-19, 2000 American Society  
of Plant Physiologists (ASPP)  
DT Conference  
LA English  
L2 ANSWER 3 OF 10 AGRICOLA DUPLICATE 1  
AN 1999:31068 AGRICOLA  
DN IND21978364  
TI Male gametic cell-specific gene expression in flowering plants.  
AU Xu, H.; Swoboda, I.; Bhalla, P.L.; Singh, M.B.  
CS University of Melbourne, Victoria, Australia.  
AV DNAL (500 N21P)  
SO Proceedings of the National Academy of Sciences of the United States of  
America, Mar 2, 1999. Vol. 96, No. 5. p. 2554-2558  
Publisher Washington, D.C. : National Academy of Sciences,  
CODEN: PNASA6; ISSN: 0027-8424  
NTE Includes references  
CY District of Columbia; United States  
DT Article; Conference  
FS U.S. Imprints not USDA, Experiment or Extension

LA English  
AB The role of the male gamete--the sperm cell--in the process of fertilization is to recognize, adhere to, and fuse with the female gamete. These highly specialized functions are expected to be controlled by activation of a unique set of genes. However, male gametic cells traditionally have been regarded as transcriptionally quiescent because of highly condensed chromatin and a very reduced amount of cytoplasm. Here, we provide evidence for male gamete-specific gene expression in flowering plants. We identified and characterized a gene, *LGC1*, which was shown to be expressed exclusively in the male gametic cells. The gene product of *LGC1* was localized at the surface of male gametic cells, suggesting a possible role in sperm-egg interactions. These findings represent an important step toward defining the molecular mechanisms of male gamete development and the cellular processes involved in fertilization of flowering plants.

=> s (pollen specific) or (sperm cell) or (generative cell)  
L3 4177 (POLLEN SPECIFIC) OR (SPERM CELL) OR (GENERATIVE CELL)

=> s l3 and express? or promoter  
L4 252850 L3 AND EXPRESS? OR PROMOTER

=> s l3 and (express? or promoter)  
L5 929 L3 AND (EXPRESS? OR PROMOTER)

=> s l3 and (plant or lily or tobacco or arabidopsis)  
L6 995 L3 AND (PLANT OR LILY OR TOBACCO OR ARABIDOPSIS)

=> s (sperm cell) and (generative cell)  
L7 89 (SPERM CELL) AND (GENERATIVE CELL)

=> duplicate remove 17  
L8 56 DUPLICATE REMOVE L7 (33 DUPLICATES REMOVED)

=> d ti 1-25

L8 ANSWER 1 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Developmental expression of polyubiquitin genes and distribution of ubiquitinated proteins in generative and sperm cells.

L8 ANSWER 2 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1  
TI Behavior of plastid nucleoids during male gametogenesis in *Plumbago auriculata*.

L8 ANSWER 3 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2  
TI Effect of photoperiod on Ca<sup>2+</sup>-ATPase distribution in photoperiod-sensitive cytoplasmic male-sterile wheat during anther development.

L8 ANSWER 4 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Unequal distribution of DNA-containing organelles in generative and sperm cells of *Erythrina crista-galli* (Fabaceae).

L8 ANSWER 5 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3  
TI Localization of vegetative nucleus and **generative cell** nuclei in branching pollen tubes of *Oenothera hookeri* L. grown in vitro.

L8 ANSWER 6 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4  
TI The organization of microtubules during **generative-cell** division in *Convallaria majalis*.

L8 ANSWER 7 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5  
TI Localization of myosin on **sperm-cell**-associated membranes of tobacco (*Nicotiana tabacum* L.).

L8 ANSWER 8 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6  
TI Application of YO-PRO-1 as an epifluorescent dye for *in situ* detection of small amount DNA in plant cells.

L8 ANSWER 9 OF 56 CAPLUS COPYRIGHT 2003 ACS  
TI Behavior of organelle DNA during the development of male reproductive cells in *Secale cereale* by epifluorescence microscopy

L8 ANSWER 10 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI A high density of rRNA in the generative cells and sperm cells of pollen grains of five angiosperm species.

L8 ANSWER 11 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Cytoplasmic inheritance of sweet potato With respect to the study of

plastids and mitochondria and the existence of their DNA in sperm cells.

L8 ANSWER 12 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

7

TI Cytological studies of the cytoplasmic inheritance in *Lilium regale* and *L. davidii*

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TI Tracing the role of the cytoskeleton during **sperm cell** transport and fertilisation in lily using high resolution SEM: techniques and first results.

L8 ANSWER 14 OF 56 AGRICOLA DUPLICATE 8

TI Comparison of flagellated and nonflagellated sperm in plants.

L8 ANSWER 15 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Cytoplasmic nucleoids in the **generative cell**, **sperm cell** and egg cell of *Calystegia hederacea*.

L8 ANSWER 16 OF 56 CAPLUS COPYRIGHT 2003 ACS

TI Preferential degradation of plastid DNA with preservation of mitochondrial DNA in the sperm cells of *Pelargonium zonale* during pollen development

L8 ANSWER 17 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

9

TI Induced single fertilization in maize

L8 ANSWER 18 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

10

TI Quantitative study of organelle nucleoids during the second pollen grain mitosis in *Oenothera biennis*

L8 ANSWER 19 OF 56 AGRICOLA DUPLICATE 11

TI Microgametogenesis in *Plumbago zeylanica* (Plumbaginaceae). 1. Descriptive cytology and three-dimensional organization.

L8 ANSWER 20 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC

TI Existence of a bovine sperm antibody recognizable antigen-epitope on the plasma surface of lily sperm cells.

L8 ANSWER 21 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC

TI Argyrophilic nuclear structures of generative and sperm cells in *Gagea lutea*.

L8 ANSWER 22 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

12

TI Dynamics of vegetative cytoplasm during **generative cell** formation and pollen maturation in *Arabidopsis thaliana*.

L8 ANSWER 23 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC

TI Study on organelle DNA within the **generative cell** and sperm cells in *Pharbitis*.

L8 ANSWER 24 OF 56 CAPLUS COPYRIGHT 2003 ACS

TI Mass isolation and purification of viable generative cells and sperm cells from *Lilium davidii* and comparison between their protein composition

L8 ANSWER 25 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Microtubular organization during asymmetrical division of the **generative cell** in *Gagea lutea*.

=> d bib abs 1

L8 ANSWER 1 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AN 2002:335338 BIOSIS

DN PFEV200200335338

TI Developmental expression of polyubiquitin genes and distribution of ubiquitinated proteins in generative and sperm cells.

AU Singh, Mohan B. (1), Xu, Huiling; Bhalla, Prem L.; Zhang, Zhaojie; Swoboda, Ines; Russell, Scott D.

CS (1) Plant Molecular Biology and Biotechnology Laboratory, Institute of Land and Food Resources, University of Melbourne, Parkville, Victoria, 3010; mohan@unimelb.edu.au Australia

SO Sexual Plant Reproduction, (April, 2002) Vol 14, No. 6, pp. 325-329. print.

ISSN: 0934-0882.

DT Article

LA English

AB Polyubiquitin-encoding cDNA clones were isolated from the generative cells of lily (*Lilium longiflorum*) and the sperm cells of *Plumbago zeylanica*. The described genes encode identical amino acid sequences, with no homology outside the coding regions. This gene participates in ubiquitination of proteins, presumably enhancing protein turnover in the germline during male reproductive differentiation. In this paper we show

that the gene encoding polyubiquitin is highly up-regulated in both *Lilium* generative cells and one of the *Plumbago sperm cell* types in particular

=> d t1 26-56

- L8 ANSWER 26 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
13  
TI Stripped projections of the outer membrane of the **generative** cell in *Convallaria majalis* pollen.
- L8 ANSWER 27 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
14  
TI Male gametophyte development in *Plumbago zeylanica*: Cytoplasm localization and cell determination in the early generative cells.
- L8 ANSWER 28 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Structural aspects of in vitro pollen tube growth and micropylar penetration in *Gasteria verrucosa* (Mill.) H. Duval and *Lilium longiflorum* Thunb.
- L8 ANSWER 29 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI The development and structure of the **generative cell** wall in *Polygonatum simizui*.
- L8 ANSWER 30 OF 56 CAPLUS COPYRIGHT 2003 ACS  
TI Occurrence of mitochondria in the nuclei of tobacco sperm cells
- L8 ANSWER 31 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
15  
TI Male reproductive cell development in *Nicotiana tabacum*: Male germ unit associations and quantitative cytology during sperm maturation
- L8 ANSWER 32 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI The cytological mechanism of biparental cytoplasmic inheritance in *Pelargonium hortorum*: Ultrastructural and DNA fluorescence studies of male and female gametes.
- L8 ANSWER 33 OF 56 AGRICOLA DUPLICATE 16  
TI Populations of plastids and mitochondria during male reproductive cell maturation in *Nicotiana tabacum* L.: a cytological basis for occasional biparental inheritance.
- L8 ANSWER 34 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Cytoplasmic DNA apportionment and plastid differentiation during male gametophyte development in *Pelargonium zonale*.
- L8 ANSWER 35 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
17  
TI Tansley review no. 61 male gametes and fertilization in angiosperms.
- L8 ANSWER 36 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
18  
TI Requirements for division of the generative nucleus in cultured pollen tubes of *Nicotiana*.
- L8 ANSWER 37 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Microtubule-cytoskeleton changes during **generative cell** division and sperm formation in the pollen tubes of *Zantedeschia aethiopica*.
- L8 ANSWER 38 OF 56 CABO COPYRIGHT 2003 CABI  
TI The cytoskeleton of pollen grains and pollen tubes.
- L8 ANSWER 39 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
19  
TI THE ISOLATION AND PURIFICATION OF SURFACE SPECIFIC PROTEINS OF SOMATIC AND REPRODUCTIVE PROTOPLASTS OF LILY AND RAPESEED.
- L8 ANSWER 40 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Heritable paternal cytoplasmic organelles in alfalfa sperm cells ultrastructural reconstruction and quantitative cytology.
- L8 ANSWER 41 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI INTERSPECIFIC INCOMPATIBILITY IN *POPULUS* INHIBITION OF TUBE GROWTH AND BEHAVIOUR OF THE MALE GERM UNIT IN *POPULUS-DELTOIDES X POPULUS-ALBA* CROSS.
- L8 ANSWER 42 OF 56 AGRICOLA  
TI Gene transfer by gamma-irradiated pollen in *Petunia hybrida*, a model suited to transgenesis research.
- L8 ANSWER 43 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
20  
TI BRASSICA-NAPUS POLLEN DEVELOPMENT DURING GENERATIVE CELL

AND SPERM CELL FORMATION.

- L8 ANSWER 44 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC  
TI ULTRASTRUCTURE OF SPERM CELLS IN OPHIOPOGON JAPONICUS.
- L8 ANSWER 45 OF 56 AGRICOLA DUPLICATE 21  
TI Generative cell division and sperm  
cell association in the pollen grain of Sambucus nigra.
- L8 ANSWER 46 OF 56 AGRICOLA DUPLICATE 22  
TI Origin of sperm cell association in the "male germ  
unit" of Brassica pollen.
- L8 ANSWER 47 OF 56 CABA COPYRIGHT 2003 CABBI  
TI Stalk cell of the male gametophyte of Picea abies (Pinaceae).
- L8 ANSWER 48 OF 56 AGRICOLA DUPLICATE 23  
TI Generative cell division and sperm  
cell formation in barley.
- L8 ANSWER 49 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI PRELIMINARY OBSERVATIONS ON THE FORMATION OF THE MALE GERM UNIT IN POLLEN  
TUBES OF CYPHOMANDRA-BETACEA SENDT.
- L8 ANSWER 50 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI ULTRASTRUCTURE OF THE TRICELULAR POLLEN GRAINS OF DIPLOID  
EUPHORBIA-DULCIS.
- L8 ANSWER 51 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI WHY ARE PLASTIDS MATERNALLY INHERITED IN EPILOBIUM? ULTRASTRUCTURAL  
OBSERVATIONS DURING MICROGAMETOGENESIS.
- L8 ANSWER 52 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC  
TI RNA SYNTHESIS BY VEGETATIVE AND SPERM NUCLEI OF TRINUCLEATE POLLEN.
- L8 ANSWER 53 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC DUPLICATE  
24  
TI ULTRASTRUCTURE OF MALE GAMETOPHYTE IN WHEAT 2. FORMATION AND DEVELOPMENT  
OF SPERM CELL.
- L8 ANSWER 54 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC  
TI SINGLE FERTILIZATION IN SPIRANTHES-SINENSIS.
- L8 ANSWER 55 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC  
TI ULTRASTRUCTURAL ASPECTS OF SPERM CELL FORMATION IN RYE  
EVIDENCE FOR CELL PLATE INVOLVEMENT IN GENERATIVE CELL  
DIVISION.
- L8 ANSWER 56 OF 56 AGRICOLA  
TI Ultrastructural aspects of sperm cell formation in  
rye: evidence for cell plate involvement in generative  
cell division

=> logoff hold  
STN INTERNATIONAL SESSION SUSPENDED AT 17:41.22 ON 21 FEB 2003